

Notice of Allowability

Application No.

10/064,160

Examiner

Hoon Song

Applicant(s)

JENSEN ET AL.

Art Unit

2882

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to response filed on February 25, 2004.
2. ☒ The allowed claim(s) is/are 1-31.
3. ☒ The drawings filed on 17 October 2002 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

DETAILED ACTION

Allowable Subject Matter

Claims 1-31 are allowed over prior art.

The following is an examiner's statement of reasons for allowance:

None of the prior art teaches or suggests a medical diagnostic imaging system with C-arm unit having x-ray source and receptor brackets to move at least one of x-ray source and receptor in a radial direction toward and away from a central axis of the C-arm unit to maintain a desired distance between the x-ray source and receptor, and image processor collecting position data of multiple exposure positions for generating three dimensional volumetric data set as claimed in independent claims 1 and 16.

Claims 2-8, 17-20 and 21-24 are allowed by virtue of their dependency.

None of the prior art teaches or suggests a method for acquiring multiple x-ray images utilized to reconstructed a three dimensional volume of patient information by rotating an x-ray source and receptor between at least first and second scan angles, and radially moving at least one of a x-ray source and receptor at said first scan angle and radially moving the at least one of the x-ray source and receptor at said second scan angle to maintain a desired distance between said x-ray source and receptor as claimed independent claim 9. Claims 10-15 are allowed by virtue of their dependency.

None of the prior art teaches or suggests a medical diagnostic imaging system with C-arm unit having x-ray source and receptor brackets moving an x-ray source and receptor to maintain a central axis for a series of image exposures and an image processor collecting position data for multiple exposure positions for constructing a

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there dimensional volumetric data set based on said series of image exposures as claimed in independent claim 25. Claims 26-28 are allowed by virtue of their dependency.

None of the prior art teaches or suggests a method for acquiring multiple x-ray images utilized to reconstructed a three dimensional volume of patient information by rotating an x-ray source and receptor about a central axis between at least first and second scan angles, moving the x-ray source and receptor to first distance to maintain a central axis when at said first angle and moving the x-ray source, and moving the x-ray source and receptor to second distance to maintain said central axis when at said second scan angle as claimed in independent claim 29. Claims 30 and 31 are allowed by virtue of their dependency.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Watanabe (US 6428206B1) and Watanabe et al. (US 6412978B1) teaches an C-arm x-ray system having radially movable x-ray detector but fails to teach the allowable subject matter above.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoon Song whose telephone number is (571) 272-2494.

The examiner can normally be reached on 8:30 AM - 5 PM, Monday - Friday.

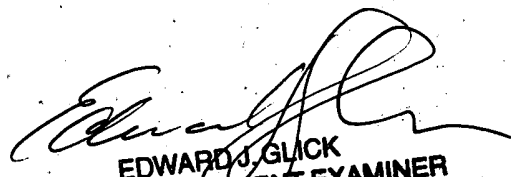
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Glick can be reached on (571) 272 - 2490. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HKS

5/17/04

HKS


EDWARD J. GLICK
SUPERVISORY PATENT EXAMINER